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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/559,273	04/27/2000	Toshiya Uemura	PM 270586	2293

7590 05/12/2003  
McGinn & Gibb, PLLC  
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EXAMINER

NGUYEN, JOSEPH H

ART UNIT PAPER NUMBER

2815

DATE MAILED: 05/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/559,273

Applicant(s)

UEMURA ET AL.

Examiner

Joseph Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 11 and 13-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 21.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al.

Regarding claim 1, Nakamura et al discloses on figure 1 a flip chip type of light emitting semiconductor device comprising a substrate 11; group III nitride semiconductor layers formed on said substrate, said layers comprising a p type semiconductor layer 13; and a positive electrode 15 including at least one layer of a first positive electrode layer which is formed on or above said a p type semiconductor layer and reflects light toward said substrate, said first positive electrode layer being made of at least one of Ag, Rh, Ru, Pt, Pd and an alloy including at least one of these metals wherein said substrate 11 transmits said light reflected from said positive electrode and light is emitted from a substrate side of said light emitting device.

Regarding claim 2, Nakamura et al discloses on figure 1 said positive electrode 15 having a multi layer structure made of a plural kinds of metals.

***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-6, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al as applied to claim 1 above, and further in view of Okazaki.

Regarding claim 3, Nakamura et al discloses on figure 1 substantially all the structures set forth in the claimed invention except a first thin film metal layer made of at least one of Co, Ni or an alloy of these metals, formed between said p type semiconductor layer and said first positive electrode layer. However, Okazaki discloses on figure 5A a first thin film metal layer 9 made of at least one of Co, Ni or an alloy of these metals, formed between said p type semiconductor layer and said first positive electrode layer 10. In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nakamura et al by having a first thin film metal layer made of at least one of Co, Ni or an alloy of these metals, formed between said p type semiconductor layer and said first positive electrode layer for the purpose of improving the external quantum efficiency as taught by Okazaki (Abstract).

Regarding claims 4-6 and 12, Nakamura et al and Okazaki together discloses all the structures set forth in the claimed invention.

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Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakaruma et al and Okazaki, and further in view of Neumann et al.

Regarding claims 7 and 8, Nakaruma et al and Okazaki disclose substantially all the structure set forth in the claimed invention except the second thin film metal layer made of at least one of gold and an alloy including gold. However, Neumann et al discloses on figure 1 the second thin film metal layer 5 made of at least one of gold and an alloy including gold (col. 3, line 27). In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nakaruma et al and Okazaki by having the second thin film metal layer made of at least one of gold and an alloy including gold for the purpose of providing a highly desirable, good ohmic contact as taught by Neumann et al (col. 3m lines 26-29).

Regarding claims 9-10, Nakaruma et al and Okazaki and Yanagihar et al together disclose all the structures set forth in the claimed invention.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-10 and 12 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (703) 308-1269. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-7382 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JN  
April 29, 2003

A handwritten signature in black ink, appearing to be 'Eddie Lee', with a large, sweeping initial 'E' and a stylized 'L'.

**EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800**